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STANDARD DHIA OWNER SAMPLER WEIGH-A-DAY-A-MONTH
AGRICULTURAL RESEARCH SERVICE, U. S. DEPARTMENT OF AGRICULTURE

Dairy-Herd-Improvement Letter

ARS-44-194
(Vol. 43, No. 4)

August 1967 1/

PRODUCTION LEVELS OF DHIA HERDS CONTINUE TO INCREASE

In 1966-67 2/ DHIA cows in the Standard recordkeeping plan produced an average of 12,307 pounds of milk and 468 pounds of butterfat. This record was made by 1,890,024 cows in 34,515 herds that averaged 54.8 cows per herd. Increases over 1965-66 amounted to 180 pounds of milk, 6 pounds of butterfat, and 1.7 cows per herd.

DHIA COWS EXCEED THE PRODUCTION OF ALL OTHER COWS

The importance of DHIA recordkeeping is evident from the fact that in 1966-67 milk production of Standard plan DHIA cows 3/ exceeded that of all other cows by 57 percent,

1/ Prepared by R. H. Miller, R. D. Plowman, C. A. Rampendahl, and J. J. Corbin from data submitted by State Extension Dairyemen in Charge of DHIA.

2/ Double years refer to a testing year--the period that begins May 1 in the year stated first and ends April 30 in the year stated last. Unless stated otherwise, single years refer to a calendar year.

3/ The words "Standard plan DHIA cows" refer to cows in the herds of dairy farmers who keep records by the Standard DHIA plan. Other DHIA recordkeeping plans are the Owner-Sampler plan and the Weigh-a-Day-a-Month plan.

Issued October 1967

or 4,456 pounds. With milk from Standard plan DHIA herds valued at \$5.24 per hundredweight, this superiority amounts to a yearly gross income advantage of \$233 per cow or \$11,650 for a 50-cow herd.

The changes in production of Standard plan DHIA cows and that of all other cows since 1960 are shown in figure 1. These statistics demonstrate the importance and results of participating in DHIA recordkeeping. The production performance of Standard plan DHIA cows and that of all other cows is summarized in table 1.

STANDARD PLAN DHIA SUMMARIES 1966-67

Table 2 is a summary of the Standard plan DHIA cow-year averages for herds reporting complete information (including feeding data) over the last 10 years. In 1966-67, 1,282,357 cows in 27,483 herds with complete reports averaged 12,030 pounds of milk and 459 pounds of butterfat. They were fed an average of 4,700 pounds of concentrate, 11,300 pounds of succulent forage, and 3,600 pounds of dry forage. They produced milk valued at \$631 (\$5.24 per cwt.), were fed at an estimated cost of \$265, and returned an estimated \$366 over feed cost. A summary of the 10-year change is also shown in table 2.

The yearly changes shown in table 2 may partially reflect changes in breed composition of herds in the Standard DHIA recordkeeping plan. Some significant trends are indicated by these data. In the 9 preceding years beginning with 1957-58, production increased by 21.4 percent, but income over feed cost increased by only 11.4 percent. During this time the cost of grain and the price received per 100 pounds of milk were essentially unchanged. However, the prices dairymen paid for equipment, labor, and other items increased steadily, indicating that only increases in the efficiency of production have enabled many dairymen to stay in operation.

In the 1966-67 testing year the picture improved somewhat. Production in the 27,483 herds reporting complete data increased by 145 pounds of milk and 6 pounds of butterfat. For the first time in many years, prices received for milk

showed a marked improvement, increasing from \$4.70 to \$5.24 per hundredweight. Because of this, income over feed cost showed a gain of about 20 percent compared to the previous year. Feed cost per cow increased by 3.5 percent. Although the data reported here do not reflect prices paid for other items, these costs have increased at a more rapid rate than feed costs.

The economic picture for dairymen in the Standard DHIA recordkeeping plan improved somewhat in the 1966-67 testing year because of a rise in the price of milk and, to a lesser extent, to a continued increase in production efficiency. However, recent information indicates that the price of milk is weakening somewhat, whereas the prices farmers pay for other items continue to increase.

Statistical summaries for herds in the Standard DHIA recordkeeping plan for 1966-67 are shown in tables 3 through 8. Cow-year averages for milk and fat yield of all herds in the Standard DHIA plan are shown in table 3. State averages based on those herds reporting complete feeding and cost data are shown in table 4.

Stratifications of herd averages by level of butterfat production, percentage of days in milk, and concentrates fed are given in tables 5, 6, and 7, respectively. The apparent trends in these tabulations should be interpreted with caution because of the possible confusing effects due to disproportionate representation of breeds and factors associated with geographical regions such as milk prices, feeding systems, etc.

The percentage of days in milk should be influenced least by these factors. Value of product and income over feed cost show consistent increases as the herd average for the percentage of days in milk increases, whereas feed cost per hundredweight of milk decreases. Apparently, this is a significant measure of the quality of herd management. It is interesting to note that herds with the ratio of days in milk averaging 83 percent and higher show an above-average return for income over feed cost per cow, i.e.; greater than \$359.

Stratifications of Standard plan DHIA herd averages by level of milk yield are shown in table 8. Breeds are

tabulated separately to eliminate complications resulting from breed differences in production and in prices of feed and milk. Such tabulations are useful in establishing guidelines for production efficiency.

Figures 2 and 3 portray the relationships among herd average milk yield and value of product per cow and feed cost per cow, for the Ayrshire, Guernsey, Holstein, Jersey, and Brown Swiss breeds. The trends are similar for each breed--the value of product per cow rises much more rapidly than feed cost per cow as the level of herd production increases. Although no data on costs other than feed are given here, it can be anticipated that these costs do not increase with yield level as rapidly as feed costs. Therefore, the proportionate increase in net profit per cow is likely to be even greater than is indicated in figures 2 and 3. These relationships vividly demonstrate the economic gains that can be achieved by increasing output per cow through better feeding, management, and breeding.

A commonly used rule of thumb in dairying is that profitable production is realized only if income is more than twice the cost of feed. For average United States conditions, the levels of milk production at or below which profits are not expected are shown in table 9.

Only 1 percent of the Standard plan DHIA herds with complete reports produced less than the milk levels necessary for profitable production indicated by table 9. However, if it is assumed that production levels of 7,500 pounds per cow are minimal for profit among herds at large, approximately half of the cows not in Standard plan DHIA recordkeeping are marginal or submarginal producers. In reality these estimates are probably conservative. Costs of equipment, labor, and other items have been increasing much more rapidly than feed costs and, therefore, these charges doubtless constitute more than 50 percent of the costs of production.

For the Holstein herds summarized in table 8, estimated income over feed cost increased approximately \$34 per cow for each 1,000-pound increase in milk production. As herd yields

increased from 8,000 to 17,000 pounds of milk, feed costs increased 65 percent, feed cost per hundredweight of milk decreased 22 percent, and income over feed cost increased 159 percent. Assuming "net profit" roughly equals value of product less twice feed cost, income increased sharply as the production level increased. At milk production intervals of 1,000 pounds for herds averaging 10,000 to 19,000 pounds, the estimated net profit per year per cow was 50, 68, 89, 109, 130, 155, 167, 203, 192, and 216 dollars, respectively. As mentioned above, these values are too high because nonfeed costs probably represent more than one-half of total production costs.

An interesting trend evident in tables 5, 6, and 8 concerns the relationship of herd size to production and quality of management. There appears to be a tendency for the highest levels of production to be characterized by smaller than average herd size. In addition, table 6 suggests that the average percentage of days in milk tends to be higher for the smaller herds. However, regional differences may have some influence on these relations.

It should be kept in mind that the applicability of these DHIA herd statistics to individual herds will have the greatest meaning where local feeding systems, feed costs, and milk prices are reasonably consistent with U.S. average conditions. Herds of the same breed and with similar milk production levels may differ considerably in production efficiency if there are marked differences in milk prices, feeding practices, feed costs, labor costs, etc.

OWNER-SAMPLER PLAN HERD SUMMARIES 1966-67

Summaries of herds in the DHIA Owner-Sampler recordkeeping plan are shown in tables 10 to 15. A total of 575,816 cows in 17,912 herds averaged 11,607 pounds of milk and 432 pounds of butterfat in 1966-67. This is an increase of 135 pounds of milk and 7 pounds of butterfat over the previous year. Owner-Sampler plan herds decreased by 1,260 compared to the previous year, although some herds may have transferred to the Standard recordkeeping plan. The number of cows on Owner-Sampler test decreased by only 22,317.

Cow-year averages by States for all Owner-Sampler plan herds are given in table 10. Similar averages, but based on reports including feeding data, are shown in table 11. Stratification of Owner-Sampler plan herds by butterfat production, percent days in milk, and level of concentrates fed are shown in tables 12, 13, and 14, respectively. These tabulations show trends similar to those for herds in the Standard DHIA recordkeeping plan. The 1966-67 Owner-Sampler yearly herd averages summarized by breed and stratified by level of milk production are shown in table 15.

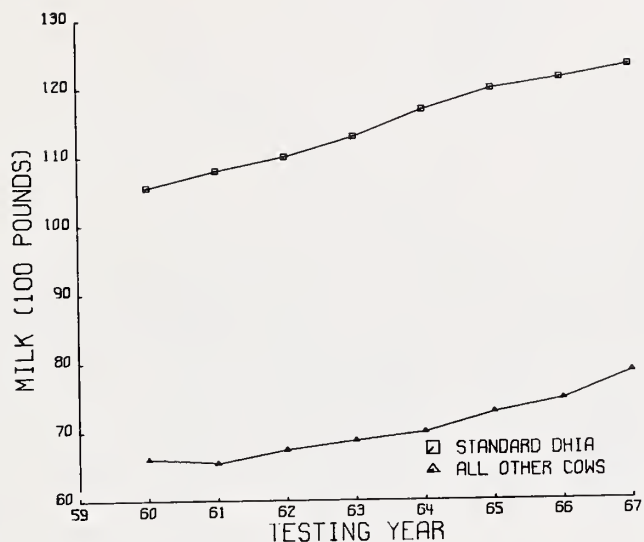


Figure 1.--Comparison of milk production for cows in Standard DHIA recordkeeping plan and for all other cows.

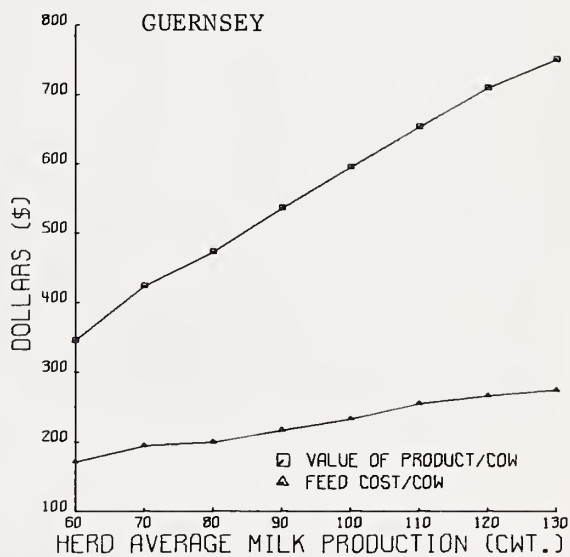
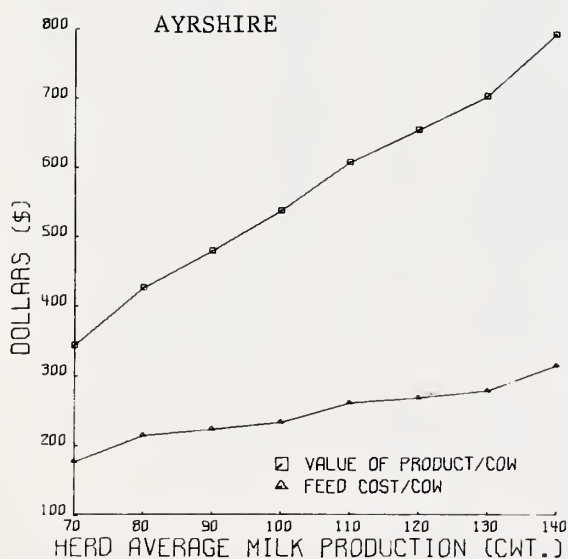


Figure 2.--Value of product and feed cost by level of production for herds in Standard DHIA recordkeeping plan: Ayrshire and Guernsey.

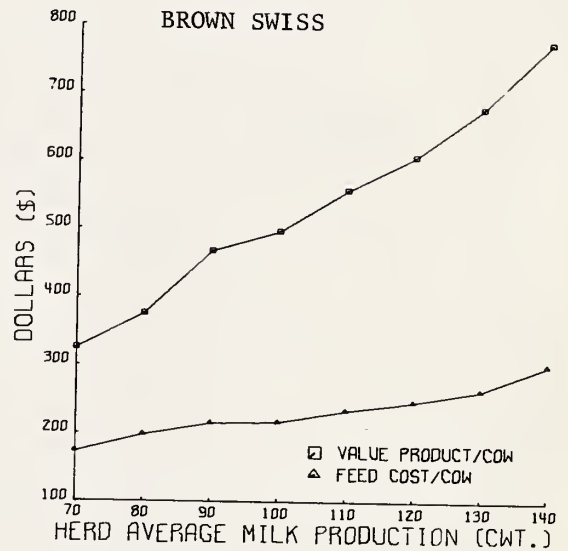
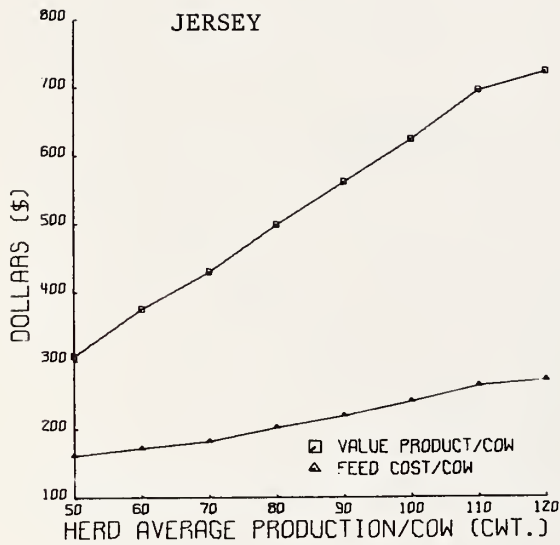
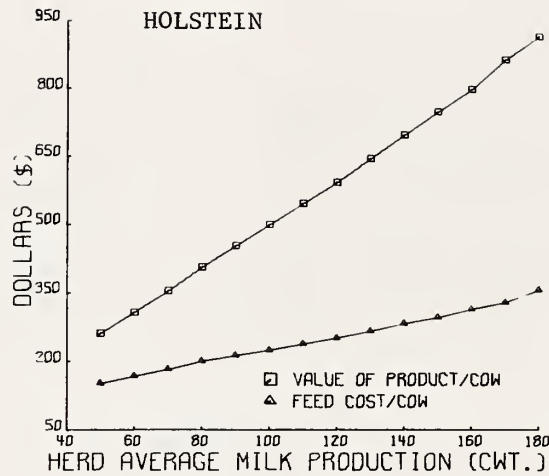


Figure 3.--Value of product and feed cost by level of production for herds in Standard DHIA recordkeeping plan: Holstein, Jersey, and Brown Swiss

TABLE 1.--Summary of production for cows in DHIA Standard recordkeeping plan and for all other cows

Year ^{2/}	Standard plan DHIA cows							All other cows ^{1/}			Superiority of Std. plan DHIA cows	
	Herds	Cows	Cows per herd	Percent of all cows ^{3/}	Milk	Fat	Fat	Milk	Fat	Fat	Milk	Fat
	Number	Number	Number	Percent	Pounds	Percent	Pounds	Pounds	Percent	Pounds	Pounds	Pounds
1930---	27,888	507,549	18.2	2.3	7,642	3.96	303	4,435	3.92	174	3,207	129
1940---	27,948	676,141	24.2	2.9	8,133	4.07	331	4,519	3.96	179	3,614	152
1950---	40,100	1,088,872	27.2	4.9	9,172	4.03	370	5,113	3.95	202	4,059	168
1961---	42,558	1,867,469	43.9	10.6	10,796	3.87	418	4/6,550	4/3.74	4/245	4,246	173
1962---	42,034	1,958,355	46.6	11.3	11,032	3.86	426	6,739	3.72	251	4,293	175
1963---	41,937	2,006,534	47.8	11.8	11,286	3.85	434	6,872	3.71	255	4,414	179
1964---	40,670	2,010,144	49.4	12.2	11,685	3.83	447	6,990	3.69	258	4,695	189
1965---	40,075	2,087,581	52.1	13.0	11,976	3.82	457	7,268	3.67	267	4,708	190
1966---	38,879	2,058,592	52.9	13.3	12,127	3.81	462	7,459	3.67	274	4,668	188
1967---	37,683	2,098,919	55.7	14.9	12,307	3.80	468	7,851	3.67	288	4,456	180

^{1/} Derived from U.S. cow population and production figures, excluding heifers not fresh as estimated by USDA's Statistical Reporting Service. Also includes cows on the Owner-Sampler and Weigh-a-Day-a-Month recordkeeping plans.

^{2/} The year for which the Standard January 1 enrollment is given.

^{3/} Calculated using U.S. calendar year cow numbers for year previous to stated year; for example: January 1, 1967, DHIA enrollment of 2,098,919 cows is 14.9 percent of the 1966 U.S. total of 14,123,000 cows.

^{4/} Comparison began to be made between DHIA production for the testing year ending May 14 of the stated year and U.S. production for the previous calendar year.

TABLE 2.--A 10-year summary of DHIA cow-year averages for herds reporting complete information

Year	Herds	Cows	Cows per herd	Milk	Fat	Fat	Conc. fed	Succ. forage fed	Dry forage fed	Value of product	Cost of conc.	Feed cost	Income over feed cost
	Number	Number	Number	Lb.	Pct.	Lb.	Cwt.	Cwt.	Cwt.	Dol.	Dol.	Dol.	Dol.
1957-58-----	27,525	900,269	32.7	9,787	3.91	383	31	69	40	462	92	190	272
1958-59-----	27,796	902,074	32.5	10,042	3.89	391	33	75	40	475	93	195	280
1959-60 ^{1/} ----	23,220	795,892	34.3	10,045	3.89	391	33	76	40	479	93	196	283
1960-61-----	18,644	689,710	37.0	10,048	3.88	390	32	78	39	485	94	198	287
1961-62-----	22,853	882,827	38.6	10,676	3.87	413	36	82	40	502	103	207	295
1962-63-----	27,093	1,089,290	40.2	10,983	3.85	423	39	92	40	501	113	222	279
1963-64-----	27,893	1,173,099	42.1	11,428	3.84	439	42	98	38	521	120	237	284
1964-65-----	28,237	1,229,676	43.5	11,744	3.82	449	44	102	38	539	127	244	295
1965-66-----	28,013	1,260,621	45.0	11,885	3.81	453	45	108	36	559	133	256	303
1966-67-----	27,483	1,282,357	46.7	12,030	3.82	459	47	113	36	631	143	265	366
10-year change: ^{2/}	gross -----	+14.0	+2,243	-0.09	+76	+16	+44	-4	+169	+51	+75	+94	
	percentage -----	+42.8	+22.9	-2.3	+19.8	+51.6	+63.8	-10.0	+36.6	+55.4	+39.5	+34.6	

^{1/} Average of 1958-59 and 1960-61 because of change in testing year.

^{2/} During this period, the hundredweight price of milk changed +53 cents gross and +11.5 percent.

TABLE 3.--Summary of 1966-67 Standard plan DHIA cow-year production, by States ^{1/}

State	Herd records	Cow-years ^{2/} Number	Cows per herd Number	Cow-year average production		
	Number			Milk Pounds	Fat Percent	Fat Pounds
Alabama-----	263	23,925	91.0	9,676	3.9	376
Alaska-----	3	132	44.0	12,227	3.7	453
Arizona-----	92	16,424	178.5	12,898	3.6	470
Arkansas-----	68	3,306	48.6	11,361	3.7	416
California-----	1,736	333,404	192.1	13,278	3.8	502
Colorado-----	184	12,818	69.7	12,728	3.7	469
Connecticut-----	388	21,492	55.4	12,754	3.9	497
Delaware-----	82	4,100	50.0	11,764	3.9	456
Florida-----	110	17,861	162.4	9,653	3.9	377
Georgia-----	345	26,932	78.1	11,053	3.8	425
Hawaii-----	9	2,130	236.7	11,482	3.3	378
Idaho-----	533	22,993	43.1	12,358	3.8	472
Illinois-----	1,314	53,079	40.4	12,175	3.8	466
Indiana-----	990	39,602	40.0	12,235	3.9	476
Iowa-----	1,566	55,269	35.3	11,740	3.8	442
Kansas-----	718	32,904	45.8	12,409	3.7	463
Kentucky-----	429	18,691	43.6	11,081	3.8	424
Louisiana-----	62	5,686	91.7	8,954	3.9	346
Maine-----	381	17,170	45.1	12,078	3.9	476
Maryland-----	634	36,717	57.9	11,751	3.9	463
Massachusetts-----	412	19,208	46.6	12,307	4.0	490
Michigan-----	1,691	73,018	43.2	12,673	3.7	471
Minnesota-----	3,056	102,154	33.4	11,892	3.8	446
Mississippi-----	201	14,754	73.4	9,172	4.0	368
Missouri-----	436	21,743	49.9	11,961	3.8	455
Montana-----	50	2,556	51.1	12,979	3.6	466
Nebraska-----	334	14,756	44.2	11,987	3.7	447
Nevada-----	26	2,809	108.0	11,784	3.8	448
New Hampshire-----	249	11,944	48.0	12,024	4.0	478
New Jersey-----	388	22,420	57.8	12,877	3.8	492
New Mexico-----	24	3,888	162.0	12,628	3.6	452
New York-----	3,424	172,374	50.3	13,009	3.7	482
North Carolina-----	677	41,768	61.7	11,957	3.8	452
North Dakota-----	128	4,665	36.4	11,381	3.8	427
Ohio-----	1,994	83,231	41.7	12,178	3.8	467
Oklahoma-----	195	11,997	61.5	11,737	3.6	424
Oregon-----	370	23,371	63.2	11,717	4.1	478
Pennsylvania-----	4,205	163,622	38.9	12,524	3.9	488
Rhode Island-----	44	2,153	48.9	11,637	3.9	450
South Carolina-----	236	21,989	93.2	10,507	4.0	425
South Dakota-----	141	5,603	39.7	12,235	3.7	449
Tennessee-----	458	26,580	58.0	10,491	4.0	417
Texas-----	257	23,911	93.0	10,866	3.7	403
Utah-----	362	18,095	50.0	12,992	3.7	479
Vermont-----	734	37,150	50.6	11,661	3.9	456
Virginia-----	854	52,536	61.5	12,020	3.8	455
Washington-----	534	34,276	64.2	12,890	3.9	499
West Virginia-----	156	7,245	46.4	11,317	3.8	434
Wisconsin-----	2,948	124,170	42.1	12,309	3.8	469
Wyoming-----	24	1,408	58.7	11,992	3.5	420
Total or average-----	34,515	1,890,024	54.8	12,307	3.8	468

^{1/} Includes all production data reported.
^{2/} Rounded to the nearest cow-year.

TABLE 4 ---Summary of 1966-67 Standard plan DHIA records, by States ^{1/}

State	Herds	Body weight	Cow-year ^{2/}	Milk	Fat	Fat	Days in milk ^{3/}	Concentrates fed	Succ. forage fed	Dry forage fed	Value of product	Cost of concentrates	Feed cost	Income over feed cost	Feed cost per cwt. milk
	Number	Cwt.	Number	Lb.	Pct.	Lb.	Pct.	Cwt.	Cwt.	Cwt.	Dol.	Dol.	Dol.	Dol.	Dol.
Alabama-----	262	11	23,878	9,680	3.9	376	83	48	59	13	565	167	257	308	2.65
Arkansas-----	67	11	3,205	11,408	3.7	417	84	45	37	37	609	145	270	339	2.36
Connecticut-----	388	12	21,492	12,754	3.9	497	85	55	158	27	784	206	346	438	2.72
Delaware-----	82	12	4,100	11,764	3.9	456	85	43	149	19	687	144	285	402	2.42
Florida-----	105	10	16,845	9,609	3.9	377	84	51	59	24	645	167	272	373	2.83
Georgia-----	338	11	26,376	11,012	3.9	425	84	47	98	14	683	165	285	398	2.59
Hawaii-----	9	13	2,130	11,482	3.3	378	79	52	60	66	875	247	470	405	4.10
Idaho-----	20	12	758	12,452	3.6	453	86	33	47	106	455	86	226	229	1.82
Illinois-----	1,294	12	52,290	12,163	3.8	466	85	43	91	39	586	113	213	373	1.75
Indiana-----	990	12	39,602	12,235	3.9	476	85	44	117	36	624	119	236	388	1.93
Iowa-----	1,554	12	54,103	11,749	3.8	443	85	49	105	41	531	123	217	314	1.84
Kansas-----	709	12	32,057	12,404	3.7	463	85	53	111	45	611	150	261	350	2.10
Kentucky-----	427	12	18,613	11,088	3.8	424	84	41	83	25	582	130	240	342	2.17
Louisiana-----	61	10	5,603	9,026	3.9	368	81	41	62	15	570	137	240	330	2.66
Maine-----	381	12	17,170	12,078	3.9	476	85	48	88	44	707	181	302	405	2.50
Maryland-----	628	13	35,998	11,706	3.9	462	85	47	147	25	676	154	313	363	2.67
Massachusetts---	412	12	19,208	12,307	4.0	490	84	52	129	36	785	190	341	444	2.77
Michigan-----	1,682	12	72,294	12,684	3.7	471	87	45	102	46	563	106	214	349	1.68
Minnesota-----	3,045	12	101,821	11,896	3.7	446	85	47	108	46	496	99	189	307	1.59
Mississippi-----	201	10	14,754	9,172	4.0	368	83	38	95	8	535	128	211	324	2.30
Missouri-----	416	12	19,790	11,941	3.8	454	86	46	77	39	601	136	250	351	2.10
Nebraska-----	321	13	14,033	11,938	3.7	445	85	46	106	48	564	128	231	333	1.94
New Hampshire---	249	12	11,944	12,024	4.0	478	85	46	128	39	716	170	317	399	2.64
New Jersey-----	388	13	22,420	12,877	3.8	492	85	52	152	34	733	177	347	386	2.70
New York-----	3,424	12	172,374	13,009	3.7	482	85	45	128	40	679	158	287	392	2.21
North Carolina---	668	12	41,123	11,944	3.8	452	85	50	171	11	746	180	314	432	2.63
North Dakota----	128	13	4,665	11,381	3.8	427	84	44	99	50	499	96	185	314	1.62
Ohio-----	1,994	12	83,231	12,178	3.8	467	86	45	122	39	637	122	249	388	2.05
Oklahoma-----	188	12	11,085	11,895	3.6	425	83	50	45	63	612	140	267	345	2.24
Oregon-----	4	11	233	10,886	4.2	452	86	27	35	66	574	104	256	318	2.35
Pennsylvania----	4,182	12	162,688	12,527	3.9	488	86	49	116	39	639	154	292	347	2.33
Rhode Island----	44	13	2,153	11,637	3.9	450	83	46	150	32	749	173	356	393	3.06
South Carolina---	236	11	21,989	10,507	4.0	425	84	44	121	17	656	150	276	380	2.62
South Dakota----	140	13	5,523	12,262	3.7	450	84	47	112	52	563	115	232	331	1.89
Tennessee-----	454	11	26,344	10,487	4.0	418	84	40	112	20	616	135	261	355	2.49
Texas-----	255	11	23,832	10,859	3.7	403	83	49	57	42	639	147	270	369	2.49
Vermont-----	733	11	37,114	11,663	3.9	456	84	41	88	42	649	157	283	366	2.43
Virginia-----	851	12	52,446	12,026	3.8	455	85	47	147	18	711	167	306	405	2.54
West Virginia---	153	12	7,077	11,312	3.8	433	85	42	101	29	622	144	270	352	2.39
Total or average-----	27,483	12	1,282,357	12,030	3.8	459	85	47	113	36	631	143	265	366	2.20
Total or average from table 3-----	34,515	--	1,890,024	12,307	3.8	468	--	--	---	--	---	---	---	---	---

^{1/} Cow-year basis, based on complete individual herd reports.

^{2/} Rounded to the nearest cow-year.

^{3/} Days in milk is the ratio of the number of days in the year cows were milked as compared to the number of days cows were actually present in the herd; the ratio is expressed as a percentage.

TABLE 5.--Summary of 1966-67 Standard plan DHIA yearly herd averages, stratified by levels of butterfat production ^{1/}

Butterfat production- pounds	Herds	Body weight	Cow-years	Milk	Fat	Fat	Days in milk ^{2/}	Concen- trates fed	Succ. forage fed	Dry forage fed	Value of product	Cost of concen- trates	Feed cost	Income over feed cost	Feed cost per cwt. milk
	Number	Cwt.	Number	Lb.	Pct.	Lb.	Pct.	Cwt.	Cwt.	Cwt.	Dol.	Dol.	Dol.	Dol.	Dol.
Under 225---	47	11	51.8	5,238	3.8	199	72	25	52	25	279	80	166	113	3.23
225-274----	180	11	56.9	6,640	3.9	256	77	30	64	29	345	88	177	168	2.69
275-324----	684	11	51.9	7,866	3.9	305	80	34	73	32	406	102	198	208	2.54
325-374----	2,242	11	50.5	9,145	3.9	354	82	38	81	35	473	114	216	257	2.39
375-424----	4,924	12	48.1	10,523	3.8	403	84	42	92	38	533	122	232	301	2.22
425-474----	7,215	12	47.2	11,815	3.8	450	85	46	103	39	597	135	251	346	2.14
475-524----	6,822	12	44.7	13,089	3.8	498	86	49	110	40	664	149	272	392	2.09
525-574----	3,867	12	45.0	14,307	3.8	546	87	53	116	41	734	164	294	440	2.07
575-624----	1,219	13	43.0	15,425	3.9	594	87	57	120	42	808	179	316	492	2.06
625-674----	241	13	42.9	16,648	3.9	641	87	61	123	43	877	198	340	537	2.05
725-UP-----	42	13	36.6	17,954	3.9	703	89	67	110	52	956	228	384	572	2.15
Total or average--	27,483	12	46.7	12,099	3.8	462	85	47	103	39	617	140	258	359	2.16

^{1/} All groupings and the total or average line are on a herd basis.

^{2/} Days in milk is the ratio of the number of days in the year cows were milked as compared to the number of days cows were actually present in the herd; the ratio is expressed as a percentage.

TABLE 6.--Summary of 1966-67 Standard plan DHIA yearly herd averages, stratified by days in milk ^{1/}

Days in milk- percent	Herds	Body weight	Cow-years	Milk	Fat	Fat	Days in milk ^{2/}	Concen- trates fed	Succ. forage fed	Dry forage fed	Value of product	Cost of concen- trates	Feed cost	Income over feed cost	Feed cost per cwt. milk
	Number	Cwt.	Number	Lb.	Pct.	Lb.	Pct.	Cwt.	Cwt.	Cwt.	Dol.	Dol.	Dol.	Dol.	Dol.
No Report--	1	12	4.6	15,674	3.8	602	--	63	--	96	639	178	265	374	1.69
Under 63----	13	11	41.2	5,473	4.1	222	58	29	53	31	275	90	181	94	3.54
63 - 67----	34	11	48.8	7,046	4.1	287	66	33	52	34	372	94	190	182	2.78
68 - 72----	139	11	59.0	7,992	3.9	315	71	36	72	33	423	109	211	212	2.70
73 - 77----	642	12	47.2	9,352	3.8	360	76	40	78	37	473	116	221	252	2.40
78 - 82----	4,357	12	46.8	11,044	3.8	419	81	44	93	39	563	134	248	315	2.28
83 - 87----	16,203	12	47.2	12,270	3.8	468	85	47	105	39	627	143	262	365	2.16
88 - 92----	5,936	12	45.1	12,821	3.9	494	89	48	108	39	650	141	260	390	2.06
93 - UP-----	158	12	37.0	13,118	3.8	505	94	50	99	39	657	141	253	404	2.00
Total or average--	27,483	12	46.7	12,099	3.8	462	85	47	103	39	617	140	258	359	2.16

^{1/} All groupings and the total or average line are on a herd basis.

^{2/} Days in milk is the ratio of the number of days in the year cows were milked as compared to the number of days cows were actually present in the herd; the ratio is expressed as a percentage.

TABLE 7.--Summary of 1966-67 Standard plan DHIA yearly herd averages, stratified by levels of concentrates fed ^{1/}

Concentrates fed- hundredweight	Herds	Body weight	Cow-years	Milk	Fat	Fat	Days in milk ^{2/}	Concen- trates fed	Succ. forage fed	Dry forage fed	Value of product	Cost of concen- trates	Feed cost	Income over feed cost	Feed cost per cwt. milk
	Number	Cwt.	Number	Lb.	Pct.	Lb.	Pct.	Cwt.	Cwt.	Cwt.	Dol.	Dol.	Dol.	Dol.	Dol.
05 - 14-----	26	11	51.5	8,356	4.0	334	83	11	108	37	408	39	152	256	1.89
15 - 24-----	391	11	46.5	8,585	4.1	354	82	22	76	38	446	66	172	274	2.09
25 - 34-----	3,349	11	47.5	9,866	4.1	400	84	31	91	37	519	93	202	317	2.11
35 - 44-----	8,400	12	46.8	11,423	3.9	443	85	40	103	38	585	120	236	349	2.11
45 - 54-----	8,977	12	46.8	12,649	3.8	477	85	49	108	40	640	148	269	371	2.15
55 - 64-----	4,566	12	45.0	13,481	3.7	502	86	59	105	40	679	176	298	381	2.23
65 - 74-----	1,373	13	47.6	13,989	3.7	518	86	68	100	40	710	204	323	387	2.33
75 - 84-----	326	12	47.6	14,139	3.7	523	86	78	94	38	732	234	346	386	2.48
85 - UP-----	75	13	50.3	14,357	3.7	533	86	90	79	40	771	276	388	383	2.73
Total or average--	27,483	12	46.7	12,099	3.8	462	85	47	103	39	617	140	258	359	2.16

^{1/} All groupings and the total or average line are on a herd basis.

^{2/} Days in milk is the ratio of the number of days in the year cows were milked as compared to the number of days cows were actually present in the herd; the ratio is expressed as a percentage.

TABLE 8.--Summary of 1966-67 Standard plan DHIA yearly herd averages by breed, stratified by levels of milk production ^{1/}

Milk production- pounds	Body		Cow-years	Milk	Fat		Days in milk ^{2/}	Concen- trates fed	Succ. forage fed	Dry forage fed	Value of product	Cost of concen- trates	Feed cost	Income over feed cost	Feed cost per cwt. milk
	Herds	weight													
	Number	Cwt.	Number	Lb.	Pct.	Lb.	Pct.	Cwt.	Cwt.	Cwt.	Dol.	Dol.	Dol.	Dol.	Dol.
AYRSHIRE															
Under 7,500---	14	11	40.8	6,633	4.1	270	78	33	61	33	344	95	177	167	2.65
7,500- 8,499---	27	11	38.0	8,110	4.0	325	79	33	64	43	427	106	215	212	2.66
8,500- 9,499---	106	11	40.6	9,057	4.0	364	82	37	73	39	480	118	224	256	2.47
9,500-10,499---	112	11	37.7	9,988	4.0	404	83	39	85	40	538	124	234	304	2.34
10,500-11,499---	115	11	45.4	10,991	4.1	447	84	44	90	40	608	143	262	346	2.39
11,500-12,499---	64	12	44.4	11,956	4.0	483	85	47	93	38	655	156	269	386	2.25
12,500-13,499---	25	11	41.5	12,887	4.0	513	85	46	85	42	703	163	279	424	2.17
13,500-UP-----	10	12	26.2	14,303	4.0	577	86	56	69	41	792	199	315	477	2.20
Total or average-----	473	11	41.2	10,327	4.0	417	83	41	82	40	560	133	245	315	2.39
GUERNSEY															
Under 6,500---	47	10	59.9	5,899	4.8	281	80	27	72	28	347	83	172	175	2.93
6,500- 7,499---	138	10	47.6	7,083	4.8	338	82	33	81	30	424	99	195	229	2.76
7,500- 8,499---	346	10	47.1	8,013	4.8	383	84	35	75	33	473	103	200	273	2.50
8,500- 9,499---	535	10	45.8	9,020	4.8	433	86	39	80	34	536	115	217	319	2.41
9,500-10,499---	467	11	43.8	9,986	4.8	478	86	41	79	37	595	125	233	362	2.34
10,500-11,499---	235	11	42.6	10,913	4.8	521	87	45	83	36	653	142	255	398	2.33
11,500-12,499---	72	11	45.3	11,864	4.7	557	88	49	74	38	709	153	266	443	2.24
12,500-UP-----	24	11	39.0	13,065	4.5	586	88	53	102	37	751	159	274	477	2.10
Total or average-----	1,864	10	45.5	9,254	4.8	442	85	39	79	34	550	119	223	327	2.43
HOLSTEIN															
Under 6,500---	32	12	51.1	5,649	3.7	207	76	26	49	25	292	76	162	129	2.91
6,500- 7,499---	81	12	47.3	7,065	3.7	260	78	31	73	30	355	90	184	171	2.61
7,500- 8,499---	228	12	51.5	8,041	3.7	296	79	35	82	32	407	101	201	206	2.50
8,500- 9,499---	588	12	49.8	9,098	3.7	337	82	37	91	35	454	107	214	240	2.35
9,500-10,499---	1,320	12	49.1	10,056	3.7	370	83	40	97	36	500	117	225	275	2.24
10,500-11,499---	2,741	12	48.7	11,052	3.7	407	84	43	104	38	546	125	239	307	2.17
11,500-12,499---	4,179	12	47.3	12,024	3.7	442	85	46	109	40	593	134	252	341	2.10
12,500-13,499---	4,670	12	46.6	12,997	3.7	479	85	49	113	41	645	146	268	377	2.06
13,500-14,499---	4,034	13	46.3	13,966	3.7	515	86	52	116	42	698	156	284	414	2.03
14,500-15,499---	2,300	13	44.6	14,935	3.7	550	87	54	116	42	749	167	297	452	1.99
15,500-16,499---	941	13	42.7	15,912	3.7	582	87	58	114	45	799	181	316	483	1.99
16,500-17,499---	276	13	43.5	16,902	3.6	616	87	61	114	45	865	195	331	534	1.96
17,500-18,499---	68	13	41.3	17,884	3.6	646	89	64	108	47	904	213	356	548	1.99
18,500-UP-----	24	13	39.9	18,913	3.7	692	89	67	103	52	950	221	367	584	1.93
Total or average-----	21,482	12	46.8	12,775	3.7	470	85	48	110	40	636	144	266	370	2.09

See footnotes at end of table.

TABLE 8.--Summary of 1966-67 Standard plan DHIA yearly herd averages by breed, stratified by levels of milk production ^{1/}--Continued

Milk production- pounds	Body						Days in milk ^{2/}	Concen- trates fed	Succ. forage fed	Dry forage fed	Value of product	Cost of concen- trates	Income over feed cost	Feed cost per cwt. milk	
	weight		Cow-years	Milk	Fat	Fat									
	Herds	Cwt.													
	Number		Number	Lb.	Pct.	Lb.	Pct.	Cwt.	Cwt.	Cwt.	Dol.	Dol.	Dol.	Dol.	Dol.
JERSEY															
Under 5,500----	25	9	62.2	5,011	5.0	249	74	28	38	26	307	82	162	144	3.28
5,500- 6,499----	77	9	50.1	6,116	5.2	315	79	29	46	25	376	92	173	203	2.84
6,500- 7,499----	273	9	49.7	7,059	5.2	364	83	34	48	29	430	102	183	247	2.59
7,500- 8,499----	439	9	52.3	8,020	5.1	410	85	36	59	28	499	113	203	296	2.54
8,500- 9,499----	421	9	47.2	8,978	5.1	462	86	39	63	31	562	124	220	342	2.45
9,500-10,499----	169	9	49.3	9,930	5.1	506	87	44	70	31	625	145	241	384	2.42
10,500-11,499----	60	9	51.7	10,864	5.0	540	86	46	67	29	697	162	264	433	2.43
11,500-UP-----	17	10	43.2	12,071	4.6	560	88	47	94	32	725	158	272	453	2.26
Total or average-----	1,481	9	50.0	8,345	5.1	426	85	37	59	29	519	119	209	310	2.53
BROWN SWISS															
Under 7,500----	17	12	29.7	6,838	4.0	274	76	34	71	40	325	83	174	152	2.61
7,500- 8,499----	26	12	29.2	8,046	4.1	331	82	36	78	46	376	95	199	177	2.48
8,500- 9,499----	61	13	33.6	9,015	4.1	371	82	39	79	38	468	113	216	252	2.40
9,500-10,499----	106	13	36.9	10,034	4.1	412	85	42	89	43	497	113	218	279	2.17
10,500-11,499----	134	13	36.5	11,005	4.1	453	85	46	90	44	558	127	235	323	2.14
11,500-12,499----	128	13	32.5	11,952	4.1	494	86	49	89	47	608	135	248	360	2.08
12,500-13,499----	66	13	32.0	12,944	4.1	536	87	51	92	47	680	145	265	415	2.04
13,500-UP-----	33	13	33.8	14,200	4.1	589	87	55	102	47	777	172	302	475	2.13
Total or average-----	571	13	34.2	10,975	4.1	453	85	45	88	44	560	127	237	323	2.18
MILKING SHORTHORN															
Under 7,500----	14	12	27.0	6,383	3.7	239	76	30	61	41	294	77	161	133	2.60
7,500- 8,499----	30	12	22.9	8,071	3.8	305	80	34	50	39	355	84	173	182	2.15
8,500- 9,499----	25	12	24.3	9,045	3.7	339	81	33	54	42	406	88	178	228	1.97
9,500-UP-----	24	12	29.9	10,852	3.7	403	84	38	78	38	496	100	193	303	1.78
Total or average-----	93	12	25.7	8,797	3.7	329	81	34	60	39	396	88	178	218	2.07
MIXED BREEDS															
Under 6,500----	27	10	68.2	5,805	4.2	243	73	29	47	23	324	90	167	156	2.89
6,500- 7,499----	48	10	54.8	7,026	4.3	299	80	33	52	25	410	104	196	214	2.78
7,500- 8,499----	128	10	57.5	8,072	4.2	342	82	38	56	27	470	122	221	249	2.74
8,500- 9,499----	189	11	59.4	9,030	4.1	374	84	40	73	31	503	127	235	268	2.61
9,500-10,499----	249	11	53.4	10,029	4.1	408	85	42	78	32	553	133	245	308	2.45
10,500-11,499----	271	11	50.6	11,028	3.9	433	85	45	93	34	589	141	262	327	2.37
11,500-12,499----	252	11	48.4	11,991	3.9	469	86	48	102	35	627	149	275	352	2.29
12,500-13,499----	186	11	41.4	12,955	3.9	499	86	51	99	39	659	161	290	369	2.24
13,500-14,499----	106	11	39.5	13,899	3.8	533	86	53	112	39	700	167	307	393	2.21
14,500-15,499----	43	11	38.1	14,981	3.8	563	88	59	127	40	763	188	328	435	2.19
15,500-UP-----	16	11	35.0	15,963	3.7	594	88	64	107	44	799	200	344	455	2.16
Total or average-----	1,515	11	50.4	10,907	4.0	433	85	45	88	34	582	142	260	322	2.42

^{1/} All groupings and the total or average line are on a herd basis.

^{2/} Days in milk is the ratio of the number of days in the year cows were milked as compared to the number of days cows were actually present in the herd; the ratio is expressed as a percentage.

TABLE 9.--Levels of milk production at or below which dairy profits are not expected in the United States

Breed	Milk level	Standard plan DHIA herds that do not exceed milk level	
	Pounds	Number	Percent
Ayrshire -----	8,100	41	8.7
Guernsey -----	5,900	47	2.5
Holstein -----	7,100	113	.5
Jersey -----	5,000	25	1.7
Brown Swiss -----	6,800	17	3.0
Milking Shorthorn ^{1/} -----	6,400	14	<u>1/15.1</u>

^{1/} Only 93 Milking Shorthorn herds represented.

TABLE 10.--Summary of 1966-67 Owner-Sampler DHIA cow-year production, by States ^{1/}

State	Herd records	Cow-years ^{2/}	Cows per herd	Cow-year average production		
	Number			Milk Pounds	Fat Percent	Fat Pounds
Alabama-----	5	319	63.8	9,429	3.6	340
Alaska-----	4	152	38.0	11,356	3.5	398
Arkansas-----	47	1,900	40.4	10,258	3.7	382
California-----	132	5,608	42.5	10,747	4.2	454
Colorado-----	18	991	55.1	11,184	3.6	401
Connecticut-----	65	2,899	44.6	12,627	3.8	481
Delaware-----	11	273	24.8	11,405	3.9	440
Florida-----	2	1,343	671.5	9,222	4.0	366
Georgia-----	5	360	72.0	11,569	3.6	422
Idaho-----	16	394	24.6	11,640	4.0	461
Illinois-----	305	9,719	31.9	11,652	3.7	435
Indiana-----	74	2,493	33.7	12,467	3.8	473
Iowa-----	985	25,719	26.1	11,263	3.7	417
Kansas-----	98	3,243	33.1	11,732	3.7	432
Kentucky-----	31	1,240	40.0	10,570	3.7	388
Louisiana-----	3	166	55.3	11,445	3.2	369
Maine-----	82	3,186	38.9	11,625	3.8	447
Maryland-----	68	2,821	41.5	11,053	3.9	431
Massachusetts-----	62	2,134	34.4	11,501	3.9	449
Michigan-----	1,261	41,006	32.5	12,249	3.7	451
Minnesota-----	1,631	43,849	26.9	11,136	3.7	410
Mississippi-----	1	74	74.0	5,842	4.8	283
Missouri-----	86	2,449	28.5	10,515	3.8	398
Montana-----	31	2,000	64.5	11,806	3.6	428
Nebraska-----	78	2,536	32.5	11,534	3.5	409
Nevada-----	1	1,044	1044.0	15,953	2.9	456
New Hampshire-----	38	1,399	36.8	11,029	4.0	438
New Jersey-----	33	1,621	49.1	12,042	3.8	455
New York-----	2,083	78,631	37.7	12,203	3.6	445
North Carolina-----	30	1,255	41.8	11,839	3.7	439
North Dakota-----	18	470	26.1	10,311	3.6	375
Ohio-----	342	10,583	30.9	11,510	3.8	433
Oklahoma-----	26	1,356	52.2	11,294	3.6	406
Oregon-----	70	1,997	28.5	10,376	4.5	463
Pennsylvania-----	1,117	33,783	30.2	11,785	3.8	453
South Carolina-----	1	51	51.0	9,542	4.3	406
South Dakota-----	103	3,358	32.6	11,580	3.6	413
Tennessee-----	4	160	40.0	8,981	3.8	343
Texas-----	13	725	55.8	10,572	3.8	404
Utah-----	24	843	35.1	12,295	3.7	452
Vermont-----	261	9,985	38.3	10,452	4.0	415
Virginia-----	51	1,836	36.0	12,487	3.6	451
Washington-----	36	971	27.0	11,838	4.1	483
West Virginia-----	20	712	35.6	10,592	4.0	426
Wisconsin-----	8,533	267,905	31.4	11,508	3.7	429
Wyoming-----	7	257	36.7	10,490	3.5	369
Total or average-----	17,912	575,816	32.1	11,607	3.7	432

^{1/} Includes all production data reported.

^{2/} Rounded to the nearest cow-year.

TABLE 11.--Summary of 1966-67 Owner-Sampler DHIA records, by States ^{1/}

State	Herds Number	Body weight Cwt.	Cow-years Number	Milk Lb.	Fat Pct.	Fat Lb.	Days in milk ^{2/} Pct.	Concen- trates fed Cwt.	Succ. forage fed Cwt.	Dry forage fed Cwt.	Value of product Dol.	Cost of concen- trates Dol.	Feed cost Dol.	Income over feed cost Dol.	Feed cost per cwt. milk Dol.
Alabama-----	5	11	319	9,429	3.6	340	85	52	50	23	544	171	257	287	2.72
Arkansas-----	46	11	1,782	10,339	3.7	387	84	44	32	31	541	142	238	303	2.31
Connecticut-----	65	12	2,899	12,627	3.8	481	84	54	133	29	763	205	333	430	2.63
Delaware-----	11	11	273	11,405	3.9	440	82	38	137	13	632	123	256	376	2.25
Florida-----	2	11	1,343	9,222	4.0	366	83	42	112	20	624	166	272	352	2.95
Georgia-----	5	12	360	11,569	3.6	422	83	44	132	5	653	160	276	377	2.38
Illinois-----	175	12	5,424	11,711	3.7	437	83	44	72	46	533	104	197	336	1.68
Indiana-----	74	12	2,493	12,467	3.8	473	85	44	119	36	617	118	232	385	1.86
Iowa-----	979	12	25,415	11,269	3.7	418	83	45	81	44	473	110	199	274	1.76
Kansas-----	96	12	3,115	11,747	3.7	434	84	50	108	41	550	142	241	309	2.05
Kentucky-----	31	11	1,240	10,570	3.7	388	83	40	95	26	526	126	249	277	2.35
Louisiana-----	3	11	166	11,445	3.2	369	84	55	8	23	690	184	283	407	2.48
Maine-----	82	12	3,186	11,625	3.8	447	84	41	96	38	655	154	273	382	2.34
Maryland-----	68	12	2,821	11,053	3.9	431	85	44	124	25	621	144	286	335	2.58
Massachusetts---	62	12	2,134	11,501	3.9	449	84	45	110	38	727	171	318	409	2.76
Minnesota-----	1,617	12	43,429	11,145	3.7	410	83	44	97	47	447	91	180	267	1.62
Mississippi-----	1	9	74	5,842	4.8	283	80	40	--	23	360	128	190	170	3.25
Missouri-----	85	11	2,387	10,565	3.8	400	84	46	53	36	506	136	236	270	2.24
Nebraska-----	77	12	2,485	11,513	3.6	409	83	43	84	46	471	112	201	270	1.74
New Hampshire---	38	11	1,399	11,029	4.0	438	84	43	87	49	649	163	299	350	2.71
New Jersey-----	33	12	1,621	12,042	3.8	455	85	43	169	28	682	145	305	377	2.53
New York-----	2,083	12	78,631	12,203	3.6	445	84	41	106	44	621	145	266	355	2.18
North Carolina--	30	12	1,255	11,839	3.7	439	85	50	151	14	730	176	308	422	2.60
North Dakota----	17	12	438	10,247	3.6	371	80	43	56	54	409	88	159	250	1.55
Ohio-----	342	12	10,583	11,510	3.8	433	85	43	104	40	588	117	232	356	2.02
Oklahoma-----	26	11	1,356	11,294	3.6	406	82	44	28	61	574	124	247	327	2.19
Pennsylvania----	1,114	11	33,650	11,790	3.8	453	84	45	103	42	581	142	278	303	2.35
South Carolina--	1	10	51	9,542	4.3	406	86	43	66	18	553	140	220	333	2.31
South Dakota----	101	12	3,163	11,558	3.6	414	84	44	104	45	501	107	206	295	1.78
Tennessee-----	4	11	160	8,981	3.8	343	82	36	102	17	511	112	226	285	2.52
Texas-----	13	11	725	10,572	3.8	404	84	52	27	41	629	174	286	343	2.70
Vermont-----	182	11	7,047	10,695	3.9	421	83	38	62	46	601	145	265	336	2.47
Virginia-----	51	12	1,836	12,487	3.6	451	85	48	112	21	679	171	303	376	2.43
West Virginia---	18	11	683	10,648	4.0	428	85	41	103	24	605	143	273	332	2.57
Total or average-----	7,537	12	243,943	11,645	3.7	433	84	43	98	43	563	130	242	321	2.08
Total or average from table 10-----	17,912	--	575,816	11,607	3.7	432	--	--	---	--	---	---	---	---	----

^{1/} Cow-year basis, based on complete individual herd reports only.

^{2/} Days in milk is the ratio of the number of days in the year cows were milked as compared to the number of days cows were actually present in the herd; the ratio is expressed as a percentage.

TABLE 12.--Summary of 1966-67 Owner-Sampler DHIA yearly herd averages, stratified by levels of butterfat production ^{1/}

Butterfat production- pounds	Herds	Body weight	Cow-years	Milk	Fat	Fat	Days in milk ^{2/}	Concen- trates fed	Succ. forage fed	Dry forage fed	Value of product	Cost of concen- trates	Feed cost	Income over feed cost	Feed cost per cwt. milk
	Number	Cwt.	Number	Lb.	Pct.	Lb.	Pct.	Cwt.	Cwt.	Cwt.	Dol.	Dol.	Dol.	Dol.	Dol.
Under 225----	14	10	24.1	4,984	3.9	193	76	22	42	43	216	54	133	83	2.65
225-274-----	71	11	27.1	6,921	3.7	255	76	28	53	45	302	76	163	139	2.37
275-324-----	383	11	29.1	8,202	3.7	306	80	33	70	44	362	88	182	180	2.23
325-374-----	968	11	31.7	9,454	3.7	353	82	36	76	44	430	101	198	232	2.11
375-424-----	1,961	12	32.6	10,799	3.7	401	83	41	85	45	500	116	220	280	2.05
425-474-----	2,167	12	32.7	12,033	3.7	449	84	45	91	45	569	132	242	327	2.02
475-524-----	1,406	12	33.6	13,309	3.7	496	85	49	98	44	645	149	266	379	2.01
525-574-----	454	12	31.7	14,449	3.8	544	86	52	104	45	717	164	290	427	2.01
575-624-----	95	12	31.7	15,393	3.8	589	86	55	92	46	785	183	306	479	1.99
625-UP-----	18	13	24.9	16,367	4.0	660	86	61	89	46	838	196	320	518	1.96
Total or average--	7,537	12	32.4	11,561	3.7	432	84	44	88	45	546	127	235	311	2.05

^{1/} All groupings and the total or average line are on a herd basis.

^{2/} Days in milk is the ratio of the number of days in the year cows were milked as compared to the number of days cows were actually present in the herd; the ratio is expressed as a percentage.

TABLE 13.--Summary of 1966-67 Owner-Sampler DHIA yearly herd averages, stratified by days in milk ^{1/}

Days in milk- percent	Herds	Body weight	Cow-years	Milk	Fat	Fat	Days in milk ^{2/}	Concen- trates fed	Succ. forage fed	Dry forage fed	Value of product	Cost of concen- trates	Feed cost	Income over feed cost	Feed cost per cwt. milk
	Number	Cwt.	Number	Lb.	Pct.	Lb.	Pct.	Cwt.	Cwt.	Cwt.	Dol.	Dol.	Dol.	Dol.	Dol.
No Report----	1	12	1.6	12,563	3.8	481	--	38	--	58	475	119	200	275	1.59
Under 68----	23	11	29.2	7,362	3.9	285	64	32	65	45	333	84	174	158	2.40
68 - 72-----	65	12	24.9	8,641	3.8	325	70	34	61	47	372	84	172	200	2.04
73 - 77-----	347	12	28.4	9,715	3.7	359	76	38	74	46	433	106	203	230	2.11
78 - 82-----	1,864	12	31.9	10,970	3.7	407	81	42	84	45	510	120	226	284	2.07
83 - 87-----	4,305	12	33.5	11,879	3.7	444	85	44	91	44	567	131	242	325	2.05
88 - 92-----	909	12	30.4	12,274	3.8	463	89	46	90	44	580	131	239	341	1.96
93 - UP-----	23	12	22.1	11,990	3.8	455	94	47	66	45	567	133	237	330	2.00
Total or average--	7,537	12	32.4	11,561	3.7	432	84	44	88	45	546	127	235	311	2.05

^{1/} All groupings and the total or average line are on a herd basis.

^{2/} Days in milk is the ratio of the number of days in the year cows were milked as compared to the number of days cows were actually present in the herd; the ratio is expressed as a percentage.

TABLE 14.--Summary of 1966-67 Owner-Sampler DHIA yearly herd averages, stratified by levels of concentrates fed ^{1/}

Concentrates fed- hundredweight	Herds	Body weight	Cow-years	Milk	Fat	Fat	Days in milk ^{2/}	Concen- trates fed	Succ. forage fed	Dry forage fed	Value of product	Cost of concen- trates	Feed cost	Income over feed cost	Feed cost per cwt. milk
	Number	Cwt.	Number	Lb.	Pct.	Lb.	Pct.	Cwt.	Cwt.	Cwt.	Dol.	Dol.	Dol.	Dol.	Dol.
No Report----	1	12	15.5	10,695	3.7	396	83	--	112	76	560	--	226	334	2.11
Under 15----	27	11	27.0	8,606	3.8	331	82	9	52	39	368	28	113	255	1.50
15 - 24-----	209	11	30.3	8,911	3.8	342	81	21	78	45	418	64	165	253	1.89
25 - 34-----	1,297	11	33.0	10,054	3.8	384	83	30	88	45	485	92	199	286	2.01
35 - 44-----	2,669	12	33.7	11,300	3.7	423	84	40	91	44	536	118	227	309	2.03
45 - 54-----	2,160	12	32.1	12,276	3.7	455	84	49	90	45	579	142	252	327	2.07
55 - 64-----	884	12	30.2	12,927	3.7	475	85	59	83	45	600	164	272	328	2.12
65 - 74-----	235	12	28.0	13,434	3.7	491	85	68	79	45	612	183	287	325	2.15
75 - 84-----	45	12	29.1	13,324	3.6	484	85	78	70	49	609	213	319	290	2.42
85 - UP-----	10	12	27.4	13,347	3.6	482	86	90	40	49	606	242	327	279	2.48
Total or average--	7,537	12	32.4	11,561	3.7	432	84	44	88	45	546	127	235	311	2.05

^{1/} All groupings and the total or average line are on a herd basis.

^{2/} Days in milk is the ratio of the number of days in the year cows were milked as compared to the number of days cows were actually present in the herd; the ratio is expressed as a percentage.

TABLE 15.--Summary of 1966-67 Owner-Sampler DHIA yearly herd averages by breed, stratified by levels of milk production ^{1/}

Milk production-pounds	Herds	Body weight	Cow-years	Milk	Fat	Fat	Days in milk ^{2/}	Concentrates fed	Succ. forage fed	Dry forage fed	Value of product	Cost of concentrates	Feed cost	Income over feed cost	Feed cost per cwt. milk
	Number	Cwt.	Number	Lb.	Pct.	Lb.	Pct.	Cwt.	Cwt.	Cwt.	Dol.	Dol.	Dol.	Dol.	Dol.
AYRSHIRE															
Under 8,500----	15	10	27.5	7,819	4.1	317	77	34	59	42	410	113	206	203	2.64
8,500- 9,499----	21	11	24.4	9,041	4.0	362	82	35	58	44	440	112	206	234	2.28
9,500-10,499----	9	11	34.6	9,906	4.0	395	82	36	42	49	539	124	224	315	2.26
10,500-UP-----	20	11	31.1	11,307	4.0	453	85	41	90	37	593	140	240	353	2.13
Total or average-----	65	11	28.6	9,576	4.0	384	82	37	66	42	494	123	219	275	2.32
GUERNSEY															
Under 7,500----	50	10	24.2	6,975	4.7	328	81	28	50	47	355	78	167	188	2.41
7,500- 8,499----	74	10	31.8	8,041	4.7	380	84	35	61	41	425	96	182	243	2.27
8,500- 9,499----	86	10	29.0	9,029	4.6	418	85	37	60	42	473	105	199	274	2.21
9,500-10,499----	46	10	26.1	9,955	4.5	449	85	39	63	40	520	112	202	318	2.03
10,500-11,499----	25	11	33.8	11,078	4.3	476	86	44	76	41	598	139	242	356	2.19
11,500-UP-----	11	11	30.5	12,453	4.1	508	86	50	90	36	661	168	277	384	2.24
Total or average-----	292	10	28.9	8,877	4.6	406	84	37	62	42	466	104	197	269	2.23
HOLSTEIN															
Under 6,500----	13	11	29.7	5,883	3.7	219	74	28	38	44	265	67	147	118	2.49
6,500- 7,499----	49	11	27.0	7,121	3.7	265	76	27	54	46	311	74	158	153	2.22
7,500- 8,499----	128	11	30.0	8,059	3.7	295	80	32	79	44	354	84	180	174	2.24
8,500- 9,499----	355	12	30.3	9,073	3.6	331	81	35	80	44	400	94	192	208	2.11
9,500-10,499----	686	12	33.0	10,066	3.7	369	82	38	84	45	450	102	201	249	2.00
10,500-11,499----	1,245	12	33.2	11,048	3.7	404	83	42	91	45	508	117	222	286	2.01
11,500-12,499----	1,372	12	33.5	12,009	3.6	438	84	45	95	46	558	128	239	319	1.99
12,500-13,499----	1,216	12	33.9	12,987	3.6	474	85	48	96	45	616	141	256	360	1.97
13,500-14,499----	736	12	34.3	13,941	3.6	507	85	50	100	45	668	153	271	397	1.94
14,500-15,499----	286	13	32.5	14,911	3.6	542	86	54	98	47	718	170	291	427	1.95
15,500-16,499----	82	13	32.1	15,902	3.6	575	86	57	88	47	767	182	296	471	1.86
16,500-UP-----	21	13	30.7	17,135	3.6	620	86	60	87	54	840	201	335	506	1.96
Total or average-----	6,189	12	33.2	11,923	3.6	435	84	44	92	45	556	128	237	319	2.00
JERSEY															
Under 6,500----	29	9	32.6	5,986	5.1	305	80	28	50	34	342	79	156	186	2.60
6,500- 7,499----	42	9	27.5	7,028	5.0	352	82	32	41	36	384	100	177	207	2.52
7,500- 8,499----	66	9	29.8	7,960	5.1	402	84	34	51	35	473	110	196	277	2.45
8,500- 9,499----	56	9	31.0	8,948	5.0	444	85	37	47	41	536	125	215	321	2.40
9,500-10,499----	24	9	30.3	9,921	4.7	469	86	43	48	38	584	143	233	351	2.35
10,500-UP-----	11	11	36.4	11,563	4.6	532	86	47	90	37	689	165	272	417	2.35
Total or average-----	228	9	30.4	8,160	5.0	404	84	35	49	37	477	114	199	278	2.46
BROWN SWISS															
Under 8,500----	16	12	20.6	7,598	4.0	306	79	33	63	48	336	80	170	166	2.24
8,500- 9,499----	20	12	27.3	8,993	4.1	366	83	36	53	48	416	104	196	220	2.18
9,500-10,499----	14	12	21.6	10,163	4.1	412	84	44	74	56	463	110	211	252	2.08
10,500-11,499----	14	13	22.6	10,984	4.0	437	84	42	88	46	512	108	213	299	1.94
11,500-UP-----	23	12	23.9	12,505	4.0	495	86	48	63	47	575	128	225	350	1.80
Total or average-----	87	12	23.5	10,174	4.0	408	83	41	67	49	466	107	204	262	2.04
MILKING SHORTHORN															
Under 10,500----	7	12	22.7	8,973	3.8	341	83	33	64	44	389	86	173	216	1.95
10,500-UP-----	4	11	10.0	11,453	3.8	433	65	43	18	52	440	114	180	260	1.57
Total or average-----	11	12	18.1	9,874	3.8	374	84	36	47	47	408	96	176	232	1.81
MIXED BREEDS															
Under 6,500----	15	10	22.3	5,417	4.3	235	77	27	43	34	234	76	149	85	2.73
6,500- 7,499----	20	10	22.5	7,062	4.2	296	80	32	35	43	325	98	187	138	2.65
7,500- 8,499----	39	11	25.3	8,024	4.2	340	81	34	53	39	392	97	194	198	2.42
8,500- 9,499----	64	11	27.0	8,953	4.1	367	82	37	59	41	430	108	207	223	2.32
9,500-10,499----	122	11	28.9	10,018	4.0	397	84	40	74	41	498	123	238	260	2.37
10,500-11,499----	132	11	29.3	11,000	3.9	427	85	43	81	41	530	135	251	279	2.28
11,500-12,499----	119	11	31.2	11,949	3.9	462	85	47	99	42	586	144	270	316	2.26
12,500-13,499----	91	11	30.8	12,971	3.8	493	85	51	96	45	632	157	290	342	2.24
13,500-14,499----	47	11	28.8	13,904	3.8	527	85	55	93	44	679	165	300	379	2.16
14,500-UP-----	15	11	27.5	15,115	3.8	568	86	57	110	43	733	178	320	414	2.12
Total or average-----	664	11	28.9	10,941	3.9	428	84	44	80	42	533	133	251	282	2.31

^{1/} All groupings and the total or average line are on a herd basis.

^{2/} Days in milk is the ratio of the number of days in the year cows were milked as compared to the number of days cows were actually present in the herd; the ratio is expressed as a percentage.

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